

Appropriate screening for osteoporosis in prostate cancer patients who have received androgen deprivation therapy - Population Health Category

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Introduction

Prostate cancer is the most common cancer among men in many Western countries, including the United States, where an estimated 240,890 cases will be diagnosed in 2011. Currently, many treatment regimens for prostate cancer include androgen deprivation therapy (ADT), either via orchiectomy or chemical castration with gonadotropin-releasing hormone agonists. The widespread use of ADT in the treatment of prostate cancer has in part resulted in a steady decline in mortality associated with prostate cancer, but is not without adverse effects. ADT results in decreased levels of circulating estrogens and androgens, shifting the balance that maintains bone mass and favoring bone reabsorption over bone formation. The use of ADT in men with prostate cancer has been shown to have a risk ratio of 1.30 of developing osteoporosis, resulting in increased likelihood of bone fracture (19.4% vs 12.6) and significant morbidity and mortality. Notably, the one year mortality rate for men with hip fractures has been demonstrated to be 50-60%. Several clinical trials have shown that bisphosphonate therapy administered in the setting of ADT for treatment of prostate cancer leads to improvements in bone mineral density.

Methods

Screening for osteoporosis in prostate cancer patients receiving ADT is identified as an important component of their care. At our institution, we conducted a retrospective analysis of all prostate cancer patients being treated with ADT to ascertain whether these patients were being appropriately screened and treated for osteoporosis. This was initially performed in 2007, and showed that 45% of patients underwent DEXA scanning to screen for osteopenia, defined as any T score between -1.0 and -2.5, and osteoporosis, defined as any T score >-2.5 . Of those, 44% of patients with osteopenia and 58% of patients with osteoporosis were treated with either calcium or bisphosphonate therapy. In response to these results, efforts were made to increase education in the Urology and Hematology/Oncology departments to encourage providers to appropriately screen their patients.

Results

A repeat retrospective analysis was subsequently performed in 2011. After 4 years of increased education, screening rose from 45% to 57% percent of the appropriate population. Of those, 85% of patients with osteopenia and 91% of patients with osteoporosis were provided treatment, a marked improvement.

Conclusion

Osteoporosis and the resultant hip fractures present a high burden of healthcare in our patient population. Appropriate screening of patients at risk is important, and further efforts need to be made in this specific high risk population to exercise preventive measures.

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